

## **ABSTRACT**

A test apparatus and method for predicting the minimum runnable flow of a curtain coating fluid by forcing the coating fluid out of a small round tube opening with less flow rate than is required for momentum to exceed the contracting forces of surface tension. The minimum flow rate is a measure of the combined effects of the surface tension, viscosity, elasticity, and dilatant behavior of the coating fluid which influence the stretch and acceleration of the fluid, that in turn, characterize the runnability of the fluid for a full scale curtain coating process. The velocity of the coating as it lands can also be determined from the flow rate and acceleration to predict whether the coating fluid will run or not before it is applied to a web or substrate.